



red-y industrial series product information

Thermal Mass Flow Meters and Controllers for Gases with IP67 & Ex Protection

High accuracy for heavy duties:

Mass Flow Meters & Controllers with IP67 & Ex Protection

Reliable technology and industry standard interfaces for rough environments:
Our tried and tested thermal mass flow meters and controllers for gases now available as IP67/NEMA 6 version.

Accurate measurement

The devices offer high accuracy and a wide dynamic range.

2 instrument versions:

«Standard» and «Hi-Performance»

Accuracy up to $\pm 0.3\%$ of full scale + $\pm 0.5\%$ of reading

Turndown ratio 1 : 100

Extended turndown ratio on request

Analog & digital: 2 in 1



The flow meters & controllers make use of the latest CMOS technology and have a digital (Modbus RTU) and analog interface as standard

IP67/NEMA 6 protection



The instruments offer IP67 / NEMA 6 protection against solid particles and water

ATEX certification



red-y industrial devices come along with ATEX certification (Category 3/Zone 2 & 22)



Setup tool «get red-y»

Efficient device setup with the free «get red-y» software:

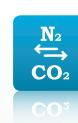
- » **Service tool for remote maintenance**
- » **Switch gas type**
- » **Switch measurement units**
- » **Adjust control parameters**

Multiple connections



The industrial series are available with different connection types: Cable gland with compression fitting or optional M12 plug on top

Options



Multigas device
A device can be used for up to 10 different gases or gas mixtures



Profibus
The instruments are available with Profibus interface: DP-V0 & DP-V1 protocols

3-year warranty*



High-quality components ensure long and trouble-free operation

*does not apply to calibration, options and accessories



Available connections (red-y industrial series)

Cable gland (standard)



Cable gland with optional Profibus



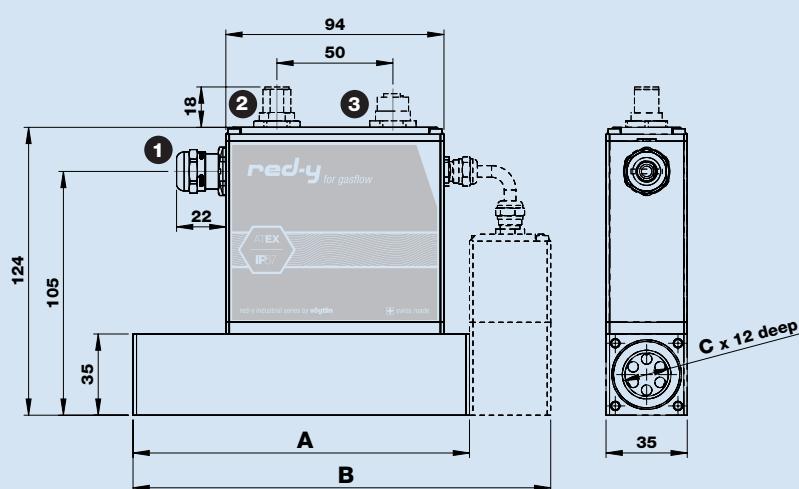
M12 plug (option)



M12 plug with optional Profibus



Dimensions (red-y industrial series)



Type	Length (mm)			Process Connection
	A	B	C	
GIM-A				
GIM-B	94	—		G1/4"
GIM-C				
GIM-D	145	—		G1/2"
GIC-A	—			
GIC-B		134		G1/4"
GIC-C				
GIC-D	—	180		G1/2"
GIC-D (double valve)	—	198		G1/2"

Electrical Connection

- ① **Cable gland / cable diameter 6-8mm**
- ② **M12 connector A-Coding 8pol male**
- ③ **M12 connector B-Coding 5pol female**

Technical Data **red-y industrial series**

Instrument types



industrial meter GIM

Thermal mass flow meter



industrial controller GIC

Thermal mass flow controller



industrial controller GIE

Thermal mass flow controller with external valve

Instrument versions

Standard

The economic solution

Accuracy: $\pm 1.0\%$ of full scale*

Turndown ratio: 1 : 50

Hi-Performance

With highest accuracy and turndown ratio (available for GIM < 200 ln/min / GIC < 150 ln/min (air))

Accuracy: $\pm 0.3\%$ of full scale + $\pm 0.5\%$ of reading*

Turndown ratio: 1 : 100

*An additional error of $\pm 0.25\%$ may apply for analogue signals

Measuring ranges

(Air/Full scale freely selectable)

red-y industrial meter GIM

Meter

Type

Measuring range (air)

Process Connection

GIM-A

from 0 ... 25 mln/min

to 0 ... 600 mln/min

G $\frac{1}{4}$ "

GIM-B

from 0 ... 600 mln/min

to 0 ... 6000 mln/min

G $\frac{1}{4}$ "

GIM-C

from 0 ... 6 ln/min

to 0 ... 60 ln/min

G $\frac{1}{4}$ "

GIM-D

from 0 ... 60 ln/min

to 0 ... 450 ln/min

G $\frac{1}{2}$ "

red-y industrial controller GIC

controller

GIC-A

from 0 ... 25 mln/min

to 0 ... 600 mln/min

G $\frac{1}{4}$ "

GIC-B

from 0 ... 600 mln/min

to 0 ... 6000 mln/min

G $\frac{1}{4}$ "

GIC-C

from 0 ... 6 ln/min

to 0 ... 60 ln/min

G $\frac{1}{4}$ "

GIC-D

from 0 ... 60 ln/min

to 0 ... 450 ln/min

G $\frac{1}{2}$ "

Performance data

Media (real gas calibration)

Air, O₂*, N₂*, He, Ar, CO₂, H₂, CH₄, C₃H₈ (other gases and gas mixtures on request)

*O₂ & N₂ are calibrated with air

Response time

Meter: 50 ms; Controller: 150 ms

Repeatability

$\pm 0.2\%$ of full scale

Longterm stability

< 1% of measured value / year

Power supply

24 Vdc (18 – 30 Vdc), 15 Vdc on request

Current consumption

Meter: max. 100 mA; Controller: max. 250 mA (except GIE)

Operation pressure

0.2 – 11 bara (GIC with valve type 4.5 and 8 max. 8 bar a)

Temperature (environment/gas)

0 – 50°C

Pressure sensitivity

Less than 0.2% RD per bar (typical N₂)

Temperature sensitivity

Less than 0.025% FS per °C (typical N₂)

Warm-up time

< 1 sec. for full accuracy

Materials

Body

Stainless steel 316L (see operating instructions for wetted parts)

Electronic Housing

Aluminum

Seals

EPDM (FDA), optional FKM

Integration

In- / Output signals analog

0..20 mA, 4..20 mA, 0.5 V, 1.5 V, 0.10 V, 2.10 V

In- / Output signals digital

RS-485; Modbus RTU 2 wire (Slave); Lab View-VIs available / Option: Profibus DP-V0, DP-V1

Process connection

G $\frac{1}{4}$ " (BSPP* female) up to 60 ln/min, G $\frac{1}{2}$ " (BSPP* female) up to 450 ln/min

*British Standard Pipe Parallel

Inlet section

None required

Electrical connection

Cable gland with compression fitting / Option: M12 plug (DIN-standard) (both connection IP67 protected)

Mounting orientation

All orientations are possible. We recommend horizontal mounting. Please contact the manufacturer for further information.

Safety

Test pressure

16 bara

Leak rate

< 1 x 10⁻⁶ mbar l/s He

Environmental protection

IP67 (conforms to NEMA 6)

EMC

CE EN 61326-1

ATEX Certification

Ex II 3G nA IIC T4 Gc (Category 3/Zone 2)

Ex II 3D Ex tc IIIC T100°C Dc (Category 3/Zone 22)

Type code «red-y industrial series»

Instrument type	red-y industrial series (Gas)	G	I	
Function	Meter		M	
	Controller		C	
	Controller with external valve		E	
Full scale of measuring range (air) defined by manufacturer	Customer-specific (Divider A, up to 600 mln/min) Customer-specific (Divider B, up to 6000 mln/min) Customer-specific (Divider C, up to 60 ln/min) Customer-specific (Divider D, up to 450 ln/min)		A X B X C X D X	
Instruments version	Standard ($\pm 1.0\%$ full scale, 1 : 50) Hi-Performance ($\pm 0.3\%$ full scale, $\pm 0.5\%$ reading, 1 : 100) Customer-specific/OEM		S T K	
Connection/Materials (body, seals)	Cable gland/Stainless steel/EPDM (FDA)** M12 plug/Stainless steel/EPDM (FDA) Cable gland/Stainless steel/FKM M12 plug/Stainless steel/FKM Customer-specific/OEM		S T U V K	
Analog signals (output)	Current 4..20 mA** Current 0..20 mA Voltage 0..5 V Voltage 1..5 V Voltage 0..10 V Voltage 2..10 V Customer-specific/OEM		B C D E F G K	
Analog signals (input)	Current 4..20 mA** Current 0..20 mA Voltage 0..5 V Voltage 1..5 V Voltage 0..10 V Voltage 2..10 V Not defined Customer-specific/OEM		B C D E F G N K	
Control valve (integrated) defined by manufacturer	Type 0.1 Type 0.2 Type 0.5 Type 1.2 Type 4.5 Type 8.0 Valve mounted Customer-specific/OEM No valve			2 1 2 2 2 3 2 6 1 2 1 3 9 5 9 9 0 0
Type code		G	I	-

**standard

Worldwide TASi Flow Network



Vögtlin Sales & Service Hub North America:

AW-Lake Company

2440 W. Corporate Preserve Dr. #600
Oak Creek, WI 53154, USA

Phone +1 414 574 4300
Fax +1 414 574 4301

info@aw-lake.com

www.aw-lake.com

International Headquarter:

Vögtlin Instruments AG

Langenhagstrasse 1
4147 Aesch BL, Switzerland

Phone +41 61 756 63 00
Fax +41 61 756 63 01

info@voegtl.in.com

www.voegtl.in.com

Vögtlin Sales & Service Hub China:

KEM flow technology (Beijing) Co., Ltd.

Rm. 906, Block C, Ruipu Office Bldg,
No. 15, HongJunYingNan Road,
Chaoyang District, Beijing 100012, China

Phone +86 10 849 29567

info@kem-kueppers.cn

www.voegtl.in.cn

Find your local Vögtlin sales partner on our website:

www.voegtl.in.com



Vögtlin Instruments AG – flow technology

Langenhagstrasse 1 | 4147 Aesch (Switzerland)

Phone +41 61 756 63 00 | Fax +41 61 756 63 01

www.voegtl.in.com | info@voegtl.in.com

vögtlin
instruments